

EXHIBIT J



**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

TQ DELTA, LLC,

Plaintiff,

V.

COMMScope Holding Company, Inc.,
COMMScope Inc.,
ARRIS International Limited,
ARRIS Global Ltd., ARRIS US Holdings, Inc.,
ARRIS Solutions, Inc.,
ARRIS Technology, Inc., and
ARRIS Enterprises, LLC.,

Defendants.

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Case No. 2:21-cv-00310-JRG

EXPERT REPORT OF STEPHEN L. BECKER, Ph.D.


STEPHEN L. BECKER, Ph.D.

11/18/2022

DATE _____



- a. ANSI “provides a framework for fair standards development and quality conformity assessment systems and continually works to safeguard their integrity” and “initiates standardization coordination work in fields vital to U.S. interests and priorities.”¹⁴⁵
- b. ITU is the “United Nations specialized agency for information and communication technologies” and ITU standards (sometimes called Recommendations) are fundamental to the operation of these technologies.¹⁴⁶
- c. Broadband Forum is the “communications industry’s leading organization focused on accelerating broadband innovation, standards, and ecosystem development.”¹⁴⁷

Patent Hold-up in the Telecommunications Industry

72. Patents are considered to be “standard essential patents” (“SEPs”) when “the standard *requires* that devices utilize specific technology, compliant devices *necessarily* infringe certain claims in patents that cover technology incorporated into the standard.”¹⁴⁸
73. “Patent hold-up” occurs when a holder of patented technology associated with the standard uses a threat of litigation or injunction to extract more value for its patented technology than it otherwise could absent adoption of the standard.¹⁴⁹ These royalty overcharges, referred to as *ex post* or “after lock in,” are supra-competitive rates that serve as a tax on the production of new products incorporating the standard and the patented technology that may ultimately be passed on to consumers in the form of higher prices.¹⁵⁰ The threat of injunction dramatically affects the negotiation for a patent royalty, granting the patent holder the leverage to extract royalties far in excess of the patent holder’s true economic contribution.¹⁵¹
74. When SSOs incorporate privately-owned intellectual property, such as patented technology, into a standard, an unbalanced bargaining position may be created between the owner of the intellectual

¹⁴⁵ About ANSI, ansi.org, accessed June 29, 2022; ANSI Roles, ansi.org, accessed June 29, 2022.

¹⁴⁶ About ITU, itu.int, accessed June 29, 2022; What Does ITU Do?, itu.int, accessed June 29, 2022.

¹⁴⁷ About BFF, broadband-forum.org, accessed June 29, 2022.

¹⁴⁸ *Ericsson, Inc. v. D-Link Sys.*, 773 F.3d (Fed. Cir. 2014). [Emphasis in original]

¹⁴⁹ See, for example, Lim, Daryl. Misconduct in Standard Setting: The Case for Patent Misuse, p.3 and Lemley, M.A., and Shapiro, C. (2007). Patent Holdup and Royalty Stacking. Texas Law Review Vol. 85, p. 1993 and *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 396 (2006) (Kennedy, J., concurring).

¹⁵⁰ Lemley, M.A., and Shapiro, C. (2007). Patent Holdup and Royalty Stacking. Texas Law Review. Vol. 85, p.1993; and Lim, D. Misconduct in Standard Setting: The Case for Patent Misuse, p.3.

¹⁵¹ Lemley, M.A., and Shapiro, C. (2007). Patent Holdup and Royalty Stacking. Texas Law Review. Vol. 85, p.1993; see also, for example, Lim, D. Misconduct in Standard Setting: The Case for Patent Misuse, pages 4-5; *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 396 (2006) (Kennedy, J., concurring).

property and the industry participants who are required to incorporate protected technology into their products in order to meet the specifications of the standard. For example, the court in *Broadcom Corp. v. Qualcomm Inc.*, noted the following:

“[A] patent does not necessarily confer market power. The value becomes significantly enhanced, however, after the patent is incorporated in a standard. . . . The patent holder’s [intellectual property rights], if unconstrained, may permit it to demand supra competitive royalties. It is in such circumstances that measures such as FRAND commitments become important safeguards against monopoly power.”¹⁵²

75. SSOs actively discourage patent hold-up by encouraging the practice of granting rights to SEPs on FRAND terms.

“...by choosing an approach to patent rights that falls somewhere along the continuum from closed (i.e., there is no stated patent policy at all, leaving default rules in place) to open (i.e., the policy requires participants to make any standard-pertinent patent available to all comers on a royalty free basis). What has come to be the most common patent policy occup[ies] a middle ground, requiring those who participate in setting a standard to promise to license, on reasonable and nondiscriminatory terms (“RAND”), the patents they own that prove essential to implementing the standard.”¹⁵³

76. By encouraging (or requiring) the licensing of SEPs on FRAND terms, SSOs hope to deter situations where a participating member can command a supra-competitive royalty after the industry becomes locked into a standard.¹⁵⁴ FRAND rates are intended to reflect the *ex-ante* value of patent contributions to the standard, not *ex post* value that may include the type of hold-up described above.¹⁵⁵
77. The Federal Circuit has recently made it clear that when a patent holder claims that a particular patent (or patents) is (are) essential to a standard, even in cases where the patent holder does not have a FRAND obligation to a standards-setting body, the royalty must not include any value

¹⁵² See, e.g., *Broadcom Corp. v. Qualcomm Inc.*, 501 F.3d 297, (3d Cir. 2007), pp.23-24.

¹⁵³ See, for example, Miller, Joseph S. Standard Setting, Patents and Access Lock-In: RAND Licensing and Theory; and Lemley, Mark A. (2002). Intellectual Property Rights and Standard-Setting Organizations, *California Law Review*, Vol. 90, pages 1889 and 1893.

¹⁵⁴ Remarks of Chairman Deborah Platt Majoras, Federal Trade Commission, Recognizing the Procompetitive Potential of Royalty Discussions in Standard Setting, Stanford University, September 23, 2005, (Remarks prepared for Standardization and the Law: Developing the Golden Mean for Global Trade, Stanford University).

¹⁵⁵ See, for example, Remarks of Chairman Deborah Platt Majoras, Federal Trade Commission, Recognizing the Procompetitive Potential of Royalty Discussions in Standard Setting, Stanford University, September 23, 2005, (Remarks prepared for Standardization and the Law: Developing the Golden Mean for Global Trade, Stanford University).

associated with the fact that the claimed invention was adopted into the standard. The Court noted that:

“[a] reasonable royalty calculation under § 284 attempts to measure the value of the patented invention. This value—the value of the technology—is distinct from any value that artificially accrues to the patent due to the standard’s adoption. Without this rule, patentees would receive all of the benefit created by standardization—benefit that would otherwise flow to consumers and businesses practicing the standard. We therefore reaffirm that reasonable royalties for SEPs generally—and not only those subject to a RAND commitment—must not include any value flowing to the patent from the standard’s adoption.”¹⁵⁶

78. Thus, where the patent holder is asserting, as TQ Delta is in this case, that some or all of the Patents-in-Suit are essential to various standards,¹⁵⁷ care must be taken to ensure that no “hold-up” value or value attributable to the standard itself be included in the determination of the royalty rate.

F. Accused Products

79. In its infringement contentions, “TQ Delta accuses all CommScope products that are capable of utilizing any of” the VDSL2 standard (*e.g.*, ITU-T 993.2), G.Bond standard (*e.g.*, ITU- 998.2), G.INP standard (*e.g.*, ITU-T 998.4), or G.fast standard (*e.g.*, G.9701).¹⁵⁸ A list of such products (the “Accused Products”) are provided at Exhibit SLB-6.

80. I also note [REDACTED]

81. As shown in Exhibit SLB-6, [REDACTED]

¹⁵⁶ *Commonwealth Scientific and Industrial Research Organization v. Cisco Systems, Inc.*, 6:11-CV-00343-LED (CAFC Dec. 3, 2015); See also *Ericsson, Inc. v. D-Link Systems, Inc.*, No. 2013-1625, (Fed. Cir. Dec. 4, 2014). See also, *e.g.*, *Microsoft Corp. v. Motorola, Inc.*, No. C10-1823JLR, 2013 WL 2111217, at *18 (W.D. Wash. Apr. 25, 2013).

¹⁵⁷ I understand that TQ Delta does not contend that Family 3 (the ‘882 Patent and the ‘048 Patent) and Family 9a (the ‘411 Patent) are technically essential. See Putnam Report, page 15. Dr. Putnam stated that “Family 3 and Family 9a are not considered essential to DSL standards although they are commercially essential to VDSL2 and G.inp respectively.” See Putnam Report, Exhibit 6.

¹⁵⁸ Plaintiff’s Disclosure of Asserted Claims and Infringement Contentions and Accompanying Document Production, dated November 4, 2021, page 4.

¹⁵⁹ Deposition of Steven Wauters, August 10, 2022, pages 22-23.

89. Based on my discussions with Dr. Cimini, Dr. Ransom, and Dr. Al-Dhahir, it is my understanding that the smallest saleable patent practicing unit (SSPPU) in this case is [REDACTED]

III. STANDARDS ESSENTIAL PATENT FRAND ANALYSIS

90. As noted earlier, TQ Delta alleges that six of the nine Patents-in-Suit are essential to one or more of the VDSL2 standard (*e.g.*, ITU-T 993.2), G.Bond standard (*e.g.*, ITU- 998.2), G.INP standard (*e.g.*, ITU-T 998.4), or G.fast standard (*e.g.*, G.9701).¹⁷⁷ As noted earlier, TQ Delta acknowledges that at least with respect to these standards essential patents (SEPs), TQ Delta and its predecessor Aware are obligated to offer licenses for these patents on a FRAND basis.

91. There is no single required methodology for determining a FRAND rate for a SEP or a group of SEPs. One common approach to determining a reasonable royalty (and FRAND royalties) is by reference to comparable licenses. This is generally known as the Market Approach and considers market-based transactions involving the patents in question (or comparable patents) as a basis for determination of a reasonable royalty for the particular license that is the subject of the hypothetical negotiation.¹⁷⁸ In addition to the Market Approach, courts have recognized several analytical approaches to determining a FRAND rate for a given SEP or set of SEPs. These analytical approaches have been generally described as either “bottom-up” approaches or “top-down” approaches.¹⁷⁹

92. Bottom-up approaches generally place more weight on facts and circumstances specific to the individual patents at issue, generally attempting to value asserted SEPs in isolation. Top-down

¹⁷⁷ I understand that TQ Delta does not contend that Family 3 (the ‘882 Patent and the ‘048 Patent) and Family 9a (the ‘411 Patent) are technically essential. See Putnam Report, page 15. Dr. Putnam stated that “Family 3 and Family 9a are not considered essential to DSL standards although they are commercially essential to VDSL2 and G.inp respectively.” See Putnam Report, Exhibit 6.

¹⁷⁸ See, for example, *Commonwealth Sci. & Indus. Research Organisation v. Cisco Sys., Inc.*, 809 F.3d (Fed. Cir. 2015) (noting that comparable licenses “at least in some cases—may be the most effective method of estimating the asserted patent’s value”); *Lucent Technologies, Inc. v. Gateway, Inc.*, 580 F. 3d 1301 (Fed. Cir. 2009) at 1334; *Integra Lifesciences I, Ltd. v. Merck KGaA*, 331 F. 3d 860 (Court of Appeals, Federal Circuit 2003); *ResQNet. com, Inc. v. Lansa, Inc.*, 594 F. 3d 860 (Fed. Cir. 2010); *Putnam v. Henkel Consumer Adhesives, Inc.*, 2007 WL 4794115 (N.D. Ga. Oct. 29, 2007); *Inline Connection Corp. v. AOL Time Warner Inc.*, 470 F. Supp. 2d 424 (D. Del. 2007); *Caluori v. One World Techs., Inc.*, 2012 WL 630246 (C.D. Cal. Feb. 27, 2012); *StoneEagle Servs., Inc. v. Pay-Plus Solutions, Inc.*, 2015 WL 3824170 (M.D. Fla. June 19, 2015).

¹⁷⁹ See, e.g., Guest Post by Prof. Jorge Contreras_ *TCL v. Ericsson_ The First Major U.S. Top-Down FRAND Royalty Decision*, patentlyo.com, 12-27-2017; Contreras, J. (2017). *Aggregated Royalties for Top Down FRAND Determinations*. Antitrust Bulletin.